

REMARKS

This communication is being filed in response to the final Office Action having a mailing date of June 11, 2007, in which a three (3) month Shortened Statutory Period for Response has been set, due to expire September 11, 2007. Claims 3, 5-8, and 11-17 are currently amended. Claims 1, 2, 9, 10, and 20-24 are canceled. New claims 25-30 are added.

The Examiner is asked to recognize that the limitations of independent claim 1 and dependent claim 2 have been placed into claim 3, and the limitations of independent claim 9 and dependent claim 10 have been placed into claim 11. Dependent claims 5-8 and 13-16 have been amended to depend from independent claims 3 and 11 respectively and further amended for proper antecedent basis. Dependent claim 12 has been amended for proper conjugation of elements. No new matter has been added to the application, and all claims are now in condition for allowance. Upon entry of the amendments herewith, claims 3-8, 11-19, and 25-30 remain pending.

I. Request for Continued Examination

A Request for Continued Examination (RCE) is filed concurrently with this Amendment so that the final Office Action mailed June 11, 2007 is effectively made non-final. Under 37 U.S.C. 1.114, the effect of the RCE, which makes the instant Office Action non-final, is to cause examination of the instant application to remain open. Accordingly, amendments submitted herein are to be entered as a matter of right, and each claim is entitled to continued examination, particularly with respect to the responses provided herein.

II. Rejections under 35 U.S.C. § 103

At sections 2 through 26 of the Office Action (pages 2-17), claims 1-24 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Padmanabhan et al.*, (U.S. Patent Application 2004/0221141), hereinafter *Padmanabhan*, in view of *Christie et al.*, (WO 02/13005), hereinafter *Christie*, in further view of *Pilat et al.*, (U.S. Patent 4,448,173), hereinafter *Pilat*, and *Shaylor et al.*, (U.S. Patent 6,408,325), hereinafter *Shaylor*.

Applicants disagree with the above stated rejections. It is well established at law that, for a proper rejection of a claim under 35 U.S.C. §103(a) as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements and/or features of the claim at issue. See, *e.g.*, *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). Applicants believe that all amended claims are patentable and that all the remaining claims are also patentable.

a. Independent Claims 3 and 11

The applicants respectfully submit that independent claims 3 and 11 are in condition for allowance for at least the reason that the proposed combination of *Padmanabhan* in view of *Christie* and in further view of *Pilat* and *Shaylor* does not disclose, teach, or suggest at least the feature of “changing the value of the at least one flag according to the content of an extended addressing register of a program counter of the central processing unit before saving the contextual data” as recited in the claims (emphasis added).

The applicants agree with the Office Action that *Padmanabhan* fails to teach storage in a variable number of registers. The applicants also agree with the Office Action that *Christie* does not teach that a flag indicating the use of extended register memory is also used to vary the number of registers saved in a context switch. The applicants further agree with the Office Action that *Pilat* saves basic or basic plus extended versions of data with two different call instructions. However, the applicants point out that none of the cited references discuss an extended addressing register, none of the cited references discuss extending their program counter, and therefore, none of the cited references teach changing the value of a flag according to the content of an extended addressing register of a program counter. Accordingly, none of the cited references teach using a flag changed according to the content of an extended addressing register of a program counter to save contextual data in a variable number of registers that varies according to the value of the flag.

For example, the *Christie* reference teaches an invention related to an x86 family microprocessor having a basic “32 bit compatibility” mode for use with a basic x86 register set,

and an extended “32 bit register extension” mode, for use with an enhanced functionality x86 extended register set. Page 5, lines 33-37. When *Christie* is operating in his 32 bit register extension mode, two flags indicate whether the extended mode is global or local. *Christie* uses a “control register” to indicate a *global* extended mode and a “flags register” to indicate a *local* extended mode. Page 3, lines 15-19. *Christie* does not mention a program counter at all nor is there any explicit teaching as to how *Christie* sets his control and flags registers. Nevertheless, it is clear that *Christie*’s flags would only be set by software when the enhanced functionality x86 extended register set was necessary. *i.e.*, *Christie* does not disclose, teach, or suggest “changing the value of the at least one flag according to the content of an extended addressing register of a program counter.”

Neither *Pilat* nor *Shaylor* cure the deficiency of *Christie*. As indicated by the Office Action, *Pilat* was used to teach why it would be advantageous to not store registers which have not been modified, and *Shaylor* was merely mentioned to help illustrate to the applicants the well known concept of dirty bits. *Pilat* mentions saving a program counter during a context switch, but *Pilat* does not discuss an extended register of a program counter. *Shaylor*, like *Christie*, does not discuss a program counter at all. Accordingly, for at least the reason that neither *Pilat* nor *Shaylor*, alone or in any motivated combination with *Padmanabhan* and/or *Christie*, teach “changing the value of the at least one flag according to the content of an extended addressing register of a program counter,” claims 3 and 11 are in condition for allowance.

b. Dependent Claims 4 and 12

As stated above, under *In re Dow Chemical* and *In re Keller*, a proper rejection of a claim under 35 U.S.C. §103(a) requires that the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements and/or features of the claim at issue. With respect to dependent claims 4 and 12, the applicants agree with the Office Action that none of the cited references teach “what happens when the content [of extended registers] is equal to zero (saving all but a single register).” Accordingly, the applicants respectfully submit that dependent claims 4 and 12 are in condition for allowance.

c. Independent Claim 17

The applicants respectfully submit that independent claim 17 is in condition for allowance for at least the reason that the proposed combination of *Padmanabhan* in view of *Christie* and in further view of *Pilat* and *Shaylor* does not disclose, teach, or suggest at least the feature of a flag that “is asserted when an extended portion of a program counter has a portion of an extended address” as recited in claim 17. As discussed above, none of the cited references alone or in any motivated combination teach saving context data in a variable number of registers based upon a flag wherein the flag is asserted based on a value in an extended part of a program counter. Accordingly, claim 17 and all claims which depend therefrom are in condition for allowance.

III. Dependent Claims in General

Each dependent claim inherits the limitations of its respective base claim and all intervening claims. Therefore, allowance of the respective base claim compels allowance of all dependent claims. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, all dependent claims, including those that were referenced in the Office Action and not specifically referenced in the present response, are allowable for at least reasons of their respective base claims, and the rejections should be withdrawn.

IV. New Claims 25-30

a. Independent Claim 25

For at least the reason that none of the cited references disclose, teach, or suggest a microprocessor based system that restores a first amount of contextual data during a return from a program switch and, if a flag is asserted, subsequently restoring an additional amount of contextual data, independent claim 25 is in condition for allowance. The *Christie* reference teaches saving (and thus restoring) all extended registers unconditionally. The *Pilat* reference teaches using specific call (and thus restore) instructions to handle basic and extended registers. *Shaylor* teaches about dirty bits. Accordingly, none of the cited references teach restoring

contextual data, interrogating a flag, and then restoring additional contextual data if the flag is asserted, and independent claim 25 is in condition for allowance. Accordingly, dependent claims 26 and 27, which depend therefrom, are also allowable.

b. Independent Claim 28

For at least the reason that none of the cited references disclose, teach, or suggest a method of handling contextual data during program switch operations that restore a first amount of contextual data during after a return from a program switch and, if a flag is asserted, restoring an additional amount of contextual data, independent claim 28 is in condition for allowance. The *Christie* reference teaches saving (and thus restoring) all extended registers unconditionally. The *Pilat* reference teaches using specific call (and thus restore) instructions to handle basic and extended registers. *Shaylor* teaches about dirty bits. Accordingly, none of the cited references teach restoring contextual data, interrogating a flag, and restoring additional contextual data if the flag is asserted, and thus, independent claim 28 is in condition for allowance. Accordingly, dependent claims 29 and 30, which depend therefrom, are also allowable.

V. Conclusion

This amendment is made in order to reach agreement on the present claims and have the case advanced to allowance. Overall, the *Padmanabhan* reference alone, or with the addition of *Christie*, *Pilat*, or *Shaylor* in any motivated combination, does not disclose, teach, or suggest what is recited in the independent claims. Thus, given the above remarks, it is respectfully submitted that the presently rejected independent claims are in condition for allowance. The dependent claims that depend directly or indirectly on these independent claims are likewise allowable based on at least the same reasons and based on the recitations contained in each dependent claim.

If the applicants have overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can

be addressed via telephone, the Examiner is encouraged to contact Mr. Carlson at (206) 622-4900.

All of the claims remaining in the application are now clearly believed to be allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

The Director is authorized to charge any additional fees due by way of this Amendment only, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,
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